

## **REMARKS**

### **I. Introduction**

In response to the non-final Office Action mailed April 4, 2007, the Assignee submits the following amendment and remarks. After entry of the amendment, claims 1-3 are pending in the application. The present response is believed to traverse all of the prior Office Action rejections and allowance of the pending claims is kindly requested. No new matter has been added by the present amendment.

### **II. Rejection of Claim 1 under 103(a)**

The Office Action rejected claim 1 under 35 U.S.C. § 103(a) as being obvious in view of the combination of Knutson *et al.* (U.S. Patent No. 6,563,862) and Sugawara *et al.* (U.S. Patent Publication No. 2006/0181797). For at least the reasons set forth below, the Assignee respectfully traverses this rejection and requests its reconsideration and withdrawal.

#### **A. The References Fail to Disclose or Suggest All Claimed Elements**

To establish *prima facie* obviousness of a claimed invention under 35 U.S.C. § 103, all the claim limitations must be disclosed or suggested by the prior art. See M.P.E.P. § 2143.03. The Assignee respectfully submits that the Office Action failed to establish *prima facie* obviousness since Knutson and Sugawara, individually or in combination, fail to disclose or suggest at least some of the claimed elements and the Office Action failed to provide other references which disclose such elements.

For example, Knutson and Sugawara, alone or in combination, fail to disclose or suggest “using said control signals to jointly determine operation of said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module,” as recited in claim 1. (Emphasis added.)

The Office Action stated Knutson discloses control signals where they mention a controller 250 to jointly determine operation of said timing recovery module, said carrier recovery module, said automatic gain control module, and said equalization module. (*See* Office Action, pg. 2.) Instead of jointly controlling operation of the timing recovery module, carrier recovery module, automatic gain control module, and equalization module, however, the variable rate controller 250 in Knutson enables clock signals at a desired rate and controls interpolator 251. (*See* Knutson, Col. 6, ll. 19-21; emphasis added.) Sugawara fails to cure this deficiency. Claim 1 relates to a wireless communication systems. In contrast, Sugawara relates to an information recording and reproducing apparatus of a magnetic disk, an MO, an optical disk, a magnetic tape, or the like. (¶ 0003.) The Office Action stated Sugawara discloses deriving control signals from soft and hard decision samples from a FIR filter 1206 and Viterbi decoder 1208. (Office Action, pgs. 2-3.) Even if the signal,  $y$ , from the FIR filter 1206 and the signal,  $\hat{y}$ , from Viterbi decoder 1208 are soft and hard decision samples, which the Assignee is not conceding, Sugawara fails to disclose or suggest using any control signals derived by the gain controller 1212 to jointly control operation of a timing recovery module, carrier recovery module, automatic gain control module, and equalization module.

Instead, the gain controller 1212 merely controls a variable gain amplifier 1200. (*See* Sugawara, ¶ 0006.)

Accordingly, claim 1 is patentable since Knutson and Sugawara, alone or in combination, fail to disclose each element recited in claim 1. Allowance of claim 1 is respectfully requested.

B. It Would Not Have Been Obvious to Combine the References

In addition to showing that all the claim limitations are disclosed or suggested by the prior art, the Office Action must show, either from the references themselves or in the knowledge generally available to one of ordinary skill in the art, that it would have been obvious under *Graham v. John Deere Co.*<sup>1</sup> to modify the references or to combine teachings in the references to arrive at the claimed invention. *See* MPEP § 2143; *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. \_\_\_\_, 82 U.S.P.Q.2d 1385, 1395-96 (2007). Even assuming that the combination of Knutson and Sugawara discloses each element recited in the claims, which, as set forth above, is not the case, the Assignee respectfully submits that the Office Action has not established such a case of obviousness.

Knutson relates to a wireless telephone system that includes a transmitter having a digital variable symbol rate modulator to allow symbol rates to be changed on the fly during wireless operation with a receiver. (*See* Knutson, Col. 3, ll. 20-39, 59-66.) Sugawara relates to an information recording and reproducing apparatus for recording and reproducing information onto and from a magnetic recording medium. (*See* Sugawara, ¶s 0003, 0006.)

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<sup>1</sup> 383 U.S. 1 (1966)

One of ordinary skill in the art has no reason to incorporate the teachings of a system for recording and reproducing information onto and from a magnetic recording medium into a wireless telephone system. Although both systems relate to signal processing, the timing issues experienced in a wireless telephone system (e.g. signal delays caused by transmission medium) are entirely different than timing issues experienced in a magnetic recording and reproducing device which do not experience such transmission medium effects. Furthermore, Sugawara controls a variable gain amplifier to eliminate gain error AG, while Knutson uses a timing recovery process for symbol synchronization and to permit the received signal to be sampled at the optimum point in time to reduce the chance of a slicing error associated with decision-directed processing of received symbol values. (*See* Sugawara, ¶ 0006; Knutson, Col. 2, ll. 32-41.) The references provide no reason why a person of ordinary skill would combine the gain error elimination in Sugawara with the symbol synchronization timing recovery process in Knutson.

Accordingly, claim 1 is patentable since one of ordinary skill in the art has no reason to combine the wireless telephone system in Knutson and the magnetic recording and reproducing system in Sugawara. Allowance of claim 1 is respectfully requested.

### **III. Claims 2 and 3**

Claims 2 and 3 are added by the present amendment and depend on claim 1. At least for the reasons set forth above, claims 2 and 3 are patentable in view of the cited references. Allowance of claims 2 and 3 is kindly requested.

**CONCLUSION**

After entry of the amendments, claims 1-3 are pending in the application. The Office Action rejection is believed to be traversed by the present response. Claims 1-3 should now be in condition for allowance. The Examiner is invited and encouraged to contact the undersigned attorney of record at (404) 745-2520 if such contact will facilitate a Notice of Allowance. If any additional fees are due, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 11-0855.

Respectfully submitted,

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DATE: October 3, 2007

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